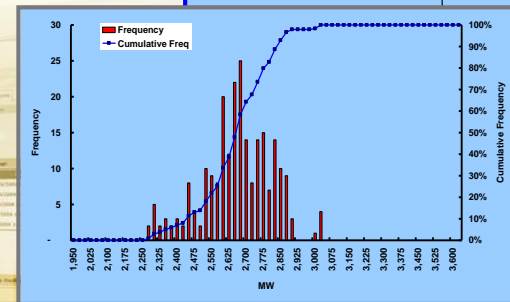
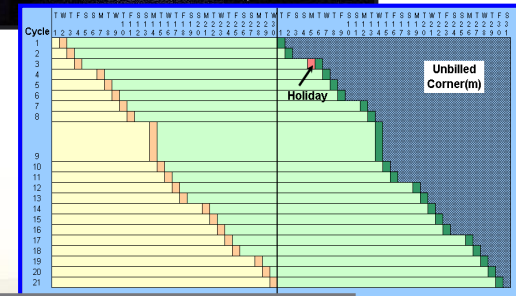
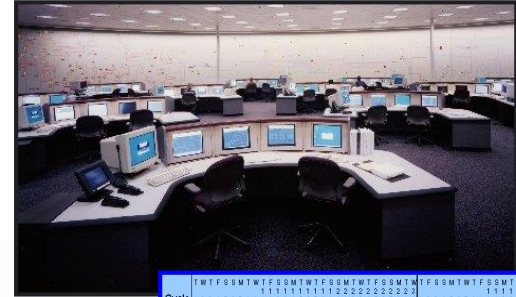


# DISTRIBUTION FORECASTING WORKING GROUP

Meeting 3 Objectives

Mark Quan  
Itron  
5/16/2018



> Knowledge to Shape Your Future

**Itron**

# OBJECTIVES

1. What is the estimated magnitude of uncertainty in circuit level forecasts and what are the implications for distribution planning and capacity for evaluation and feedback to mitigate uncertainties?

Meeting 1: Developed the list of uncertainties

Meeting 2: Qualified the magnitude for PV, EV, and AAE

Meeting 3: Estimate the magnitude for ES and LMDR

2. Are there data sets that could improve the IOUs disaggregation of Distributed Energy Resources (DER) growth to the circuit level?

Meeting 1: DMV Data

Meeting 2: CA DG Stats Database, 2017 NREL Study, MV&E Studies

Meeting 3: Additional datasets for ES and LMDR

Meeting 4: All Dataset Discussion Input

# OBJECTIVES

3. What are the disaggregation methods of system level load and DER forecasts to the circuit level, what are the shortcomings and possible improvements?

Meeting 1: Looked at last years method for DER disaggregation

Meeting 2: No dissent proposed methods for PV and EV

Meeting 3: Polling on AAEE

Meeting 3: Review next year's method and identify shortcomings and/or improvements (ES and LMDR)

Meeting 4: Load disaggregation

4. What are the best data sources for disaggregation of load and DER adoption, as well as DER operational profiles?

Meeting 2: See Objective 2

Meeting 3: Additional datasets for ES and LMDR

Meeting 4: All Dataset Discussion Input

# OBJECTIVES

5. What dispersion methods should be used to allocate circuit-level forecasts along a circuit?

Meeting 4: IOUs will discuss dispersion methods.

6. How will the IOUs modify future forecasts based on evaluation of actual results in forecasts?

Meeting 2: Reviewed PV, EV, and AAEE method updates and corrections.

Meeting 3: Understand next year's update for ES and LMDR and reasons for corrections

7. Does the DER disaggregation align with California Energy Commission (CEC) and California Independent System Operator's forecasting assumptions

Meeting 3: Load disaggregation and interactions with CEC

# MEETING 3 OBJECTIVES

- » For ES and LMDR...
  - What are the major uncertainties?
  - What are next year's methods and how do they mitigate uncertainty?
  - Quantify/Qualify major uncertainties.
  
- » Polling on AAEE, ES, and LMDR
  - Is the method “best practice” given the current constraints?
  - Are there better methods to disaggregation that should be considered? Are there any method short-comings that can be addressed?
  - What is the level (quantify/qualify) of uncertainty?
  - Are there additional datasets?

# MEETING 3 OBJECTIVES

## » Answer Objective 7:

- “Does the DER disaggregation align with California Energy Commission (CEC) and California Independent System Operator’s forecasting assumptions?”
  - EV
  - PV
  - AAEE
  - ES
  - LMDR
- Where can improvement be made?

# AAEE METHOD & DATA - POLLING

## Model:

All IOUs base their allocations on a Proportional Allocation Method. While the details of the allocation are different by IOU, the framework consistently allocates based on sector or class information

## Additional Data Sources:

MV&E studies contain information about individual programs. These studies may contain information useful to improving the allocation method.

# AAEE UNCERTAINTY - POLLING

- IEPR:**  
**High** The IEPR forecast is a key uncertainty for the circuit level forecasts. Additional coordination with the CEC may yield improvements when class definitions are better aligned or the CEC provides information at a more granular level.
- Models.**  
**Medium** Location is not known for more than 50% of past EE. This is an area where improved data and coordination can mitigate risk.
- Shapes.**  
**Low to Medium** End-use or energy efficiency shapes are used in the planning process. IOUs discussed the lack of recent study producing shapes.
- Lumpy Adoption.**  
**Medium** Timing and location of large AAEE projects impossible to forecast accurately. Coordination with EE teams who may get advanced notice of large projects might help to mitigate this uncertainty.



# LOGISTICS

## Document Website:

<http://capabilities.itron.com/DFWG/index.htm>

## Meetings:

All meetings are tentatively set from 9:30 AM to 3:30 PM.

- Meeting 1: 4/18/18 (PG&E, Room 1876)
- Meeting 2: 5/2/18 (CPUC Golden Gate Room)
- Meeting 3: 5/16/18 (PG&E, Room 938 A/B)
- Meeting 4: 5/30/18 (Webinar)
- Meeting 5: 6/13/18 (CPUC Golden Gate Room)

## Facilitator Contact Information

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